



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

National Hygienic and Economic Conditions

By ARTHUR SCHLOSSMANN, M.D.

Düsseldorf

Translated by Karl Scholz, Ph.D., Instructor in Economics, University of Pennsylvania

HYGIENIC and economic conditions of a nation are closely and doubly related. On the one hand, health constitutes the greatest wealth. Only that nation can progress economically whose individual members can take an active part in universal competition free from disease and illness. On the other hand, experience teaches us that economic calamity infallibly tends to undermine physical powers of resistance and to impair health. Want and sickness are twin sisters. Now sickness opens the door of the house and allows want to enter. Again, it is want which advances, with sickness in its retinue. Thus it is in the life of individuals and none the less, as history shows us, in the life of nations. The present condition in Germany gives new evidence of this close inter-relation of national hygienic and economic conditions. Conversely, to be sure, the development during the last few decades before the war likewise proves this assertion.

The struggle against diseases, which unnaturally end the life of man prematurely, has been conducted in Germany with greatest tenacity and with good results. In the years from 1871 to 1880 for every one thousand population the death rate was 27.1; at the close of the century, it was only about 20; in the year 1913, only 15; therefore continued decrease in mortality figures and continued increase in the average longevity are clearly shown. To bring about this result, the constant sanitary development of the whole country is necessary. To this

we owe our increased knowledge of the causes of diseases and of the means of combating them. Of great importance in this connection is the development of our social statutes, especially those pertaining to the insurance against disease. Particularly in the years 1886 to 1900 the improvement of the conditions of living in Germany may be traced to a decrease in mortality among those in the age of greatest productiveness. The law on sickness insurance prevents hardship resulting from sickness. Every patient is assured of a physician, treatment in a hospital and the most necessary means for his subsistence as well as for the subsistence of his family. Consequently, the possibility of convalescence and the return of earning capacity increase. Since the entire nation has to provide the means which accrue to the benefit of the individual in the case of illness, so the entire nation is also most vitally interested in seeing that as few human beings as possible are sick, and that the patients shall be restored to health as soon as possible and their earning capacity renewed. The greater the number of healthy people who are able to work, the more can be accomplished economically. Every day a workman is ill increases the cost of the product and harms competitive ability.

If, therefore, it is to the greatest interest of the entire nation to prevent sickness in general or to do everything possible in the initial stages of illness to decrease its duration or to bring about a final cure without danger of

relapse and to exclude every possibility of complications, certain new and important problems result. A prophylactic was developed, in which the national insurance institutions, which are the legal holders of invalid insurance and sick benefits took a part. This occurred after the composite social law of 1911, which prevented such an appropriation of beneficial funds, had been replaced by the establishment of the new national insurance regulation. Also city communities and country districts, as well as many beneficial organizations, placed themselves at the service of this modern prophylactic endeavor.

Even though I am inclined to ascribe a beneficial influence upon national hygiene in Germany to social statutes, nevertheless, this improvement of hygienic conditions also exercises a decided influence upon advancing the universal economic conditions. In the last twenty years before the war, the population of Germany has increased from 100 to 132 per cent; national wealth and national income, however, from 100 to 200 per cent. Therefore, during this period, just the opposite of what Malthus and Marx predicted has occurred: a decided increase in population and a still greater increase in industrial development, and this without impoverishment of the masses, with no increase in disease and mortality, but with better economic conditions and with better living prospects. Moreover, the increase in national wealth in Germany before the war can not be traced primarily to an increase in individual fortunes. On the contrary, the large masses of an industrious people have profited by it.

As we know, the nineteenth century brought about a complete industrial revolution in Germany. From an agrarian nation we developed into an

industrial state. This process, which at first developed slowly and organically, became more and more stormy. The reign of the last emperor marked an epoch of the most rapid development in German industry. About thirty million people were supported directly by the industries before the beginning of the World War. The great increase in population which Germany had to show may be attributed entirely to industry. All individuals added to the composite population were busied in industry, and from it they derived their livelihood. In the year 1816 about eighteen and one-half million people were supporting themselves by agriculture, and the six and one-half million remaining satisfied their needs in other activities. In the year 1910 only about eighteen million were engaged in agriculture, while, on the other hand, there were forty-six and nine-tenths million without any direct relation to Mother Earth or to the cultivation of the soil. To be sure, the blossom of German industry has been instrumental in elevating national welfare, and in so doing has promoted national hygiene. A good and continually developing industry can pay large wages and make possible the shortening of work hours. With increased wages, a better food supply was likewise possible. The German worker, before the war, nourished himself profusely and abundantly.

With reference to living conditions, a decided and partly successful movement was in progress to strive to correct errors which had been made. German industries, just as in other countries, are not uniformly distributed over the entire nation. There are areas where no smoke stacks, no furnaces and no industries exist. In other localities, there is one large industry beside another. We have quite a number of industrial centers. The

most important, industrially, is the Rhenish-Westphalian, which extends approximately from Düsseldorf to Dortmund. Here the best coal mines are located, and on the surface above the coal, iron and steel industries have been developed. Countless other industries have followed, particularly those which manufacture articles from iron and steel. Many other industries sprang up, taking advantage of the opportunity to obtain coal and iron easily and without paying transportation charges, and likewise, perhaps, to avail themselves of the good market conditions here. Around the territory of which I am speaking the centers of the textile industry are permanently established.

From year to year the population, which earned its daily bread from the production of coal and from all these other continually expanding enterprises, has increased. Consequently the congestion of workmen was very great, and, I emphasize it quite frankly, unsanitary from the start. Human beings, if they are to live like human beings, must not be huddled together without breathing space. They must at least have elbow room, so that they may see some vegetation from their window, and possibly that they may have the possibility of raising a part of their food supply on their own soil. I am reminded of the old legend of Giant Antäus, who always obtained new strength when his feet touched the soil. Contact with Mother Earth gives new vigor to the individual as well as to an entire nation. It is the prerequisite of a happy, healthy and moral life. Realizing this fact, which received more and more recognition in Germany, one has begun, in the years before the war, to pay greater attention to the housing question. It was a question of developing an internal colonization for the industrial workers with the object

of establishing family dwellings surrounded by gardens, with the possibility of raising in these gardens many products necessary for the support of the family. Also the domestication of animals, above all that of goats, developed and made rapid progress.

It was necessary to survey briefly these conditions in order to obtain an understanding of the question of how German national health has been impaired by the war. Germany was absolutely unprepared for the war. A future age, in which unprejudiced historical investigation may work, after examining all archives, and with the assistance of all sources, will have to explain the origin of the World War. I am firmly convinced that the German people will successfully pass this test. To be sure, there were military circles and politicians also in Germany who sought to derive advantages from war. The people as a whole, however, were as pacific and as disinclined to warfare as any other. This is proven by the fact that we entered the war entirely unprepared in non-military essentials. No provision had been made, either for foodstuffs or for raw materials necessary to meet the exigencies of warfare, and now the working energy of the population had to be taxed to its utmost. At the same time, shortage of everything occurred that is immediately necessary to sustain life. As a result, the physical condition of the German national body had been injured to a degree of which the outside world has absolutely no conception. I am not exaggerating when I say that universal history knows no parallel. Indeed, in ancient times, which we are accustomed to characterize as barbaric, wars were conducted gruesomely and without consideration. War is simply a will to destroy. Likewise, one did not refrain from exterminating entire nations, slaying men,

women and children in order to rid oneself of the enemy in the future. That was always a horrible ending. But during the last six years the Germans have experienced horror without ending.

In the first place, the war severed family ties. Men had to go out into the trenches and women and girls were called upon to do work which taxed their strength to the utmost and at times overtaxed it, in order to produce the necessary arms, munitions and supplies to carry on the war. Germany, in this respect, was not only self-supporting, but even had to supply all of its allies, who were in no way equipped to achieve similar industrial results. If the father is engaged in war and the mother in the factory, the new generation of children is in great danger. Hygienically and morally, the children could not be provided for. To be sure, a great many things have been done to counteract these injuries, but the establishment of all these homes, all these sanitariums has only proven anew how correctly the great pedagogue, Pestalozzi, emphasized the value of the family in contrast with institutions in caring for children.

In industries, in which women had never been permitted in times of peace, they now had to be employed. Achievements, difficult and strenuous performances, which were absolutely unbearable, were now imposed upon women. But the women in the country did not fare much better. Their energies also have been considerably overtaxed. The peasant wife, herself, drew the plough, in order to cultivate the field, after husband, servant and horse had been taken away in order to serve the Fatherland. Consequently, severe injuries, particularly to abdominal organs, have been contracted by numerous women.

To hard work malnutrition was

added, as a result of which not only women and children but also those men who were physically unfit for active service or who had been sent back home in order to work, had to suffer severely. As I have previously stated, the food supply in Germany before the war was very good. We had actually accustomed ourselves to consuming luxuries and ate more than the body could consume. The law of Oswald, "save energy," was unfortunately given little consideration at that time.

I have busied myself with these questions scientifically and was able to prove experimentally in my laboratory in 1913 and 1914 that the former nutrient has an extraordinary influence upon the reaction of the body to a subsequent period of hunger. A suckling child receiving nutrition containing no albumin can very readily endure a fast of from two to three days, while a suckling overfed with cows' milk, permanently accustomed to large masses of albumin, pines away rapidly. It is this very former abundance of foodstuffs which is causing us to feel the effects of privation all the more.

But also the armies in the field had to endure privation in the year 1918; until that time the food supply of the soldiers had been very abundant. Those at home endured privation, conscious of the fact that those in the field should not be lacking anything. Particularly the year 1918 imposed enormous tasks upon the armies, and at the same time brought about the necessity of economizing in food supplies. Thus the entire German people of over sixty-five million, with increased and, at times, enormously increased expenditures of physical energy, have barely received in return their necessary foodstuffs. The entire nation has been consuming its bodily

capital. Of course, the privations have not been endured equally by all. By that I do not mean the comparatively small number of unscrupulous rascals who are out of sympathy with the masses and who will think only of themselves and of their own bodies. It is quite natural that the industrial population had to suffer more severely than the agricultural. No regulation will be able to induce the peasant wife who milks her own cow, to withhold from her own child the milk which, in her opinion, that child requires. The peasant, under all conditions, will set aside for himself and his family as much grain and as many potatoes as may be necessary to prevent hardship from entering his home. Now I have pointed to the fact that the development of the economic conditions in Germany has resulted in a comparatively small part of the population being in agriculture, and that, therefore, the vast majority of the population was deprived of the advantages which the agricultural worker could derive for himself. The residents of the large cities suffered most severely, particularly those in the Rhenish-Westphalian industrial area, where the population is massed. Furthermore, those have been affected most severely who had to do heavy work under decidedly unfavorable conditions; for instance, the workmen at the blast furnaces and in the mines. If we want to produce coal we have to provide our miners primarily with nourishment, for they have retrograded to such an extent in their physical condition that they now have no further reserve energy. Germany's fate, the fate of Europe, and perhaps that of the entire civilized world now depends upon the production of coal. In this respect, such severe terms are imposed upon Germany by the Treaty of Peace that even today a number of her factories

are no longer able to continue their production or, at least, can no longer work full time and full force, since, as a result of the delivery of coal to other countries, not enough remains for us. That again means a decreased possibility of exportation of those manufactured articles which foreign countries demand, and therefore decreased possibility of buying foodstuffs from countries with a surplus; consequently, a further diminution of national energy and further impairment of national health.

But the German people as a whole can not endure much more in this direction. I have stated before that we have conducted a conscientious struggle against tuberculosis. Now this disease has spread gruesomely. The over-worked, poorly-nourished human beings are an easy prey to infection. For six years, building operations have been practically at a standstill. The cost of building material is so high that new dwellings, in spite of the high subsidies, which the state grants, can scarcely be erected. But now the working capacity of the people, particularly that of the miners, has decreased considerably. Necessarily the work day was shortened, so that, even with the very best of intentions, the productivity of the workers today is very small. In order to obtain even a portion of a necessary supply of coal many more workmen must be employed in the coal mines. In the densely populated districts in which mining is conducted, an indescribable shortage of housing facilities prevails. The same is true in the cities. As a result of these poor housing conditions, tuberculosis among the laboring population is rapidly increasing. This disease has made progress in well-to-do circles to a degree which I should have considered quite impossible formerly. To be sure, authorities on social hygiene know

that every epidemic prevailing in poorer circles affects those who are economically well off, and who, themselves, live among irreproachable hygienic conditions. Wealthy parents, who are able to guard their child in every direction, find that it is stricken with and dies of scarlet fever, which originally developed in a poor section, and carried into their resident districts. The well-to-do are best protected by combating diseases among the poorer classes of population. I am firmly convinced, therefore, that the increase in tuberculosis, which we now see with horror in Germany, also endangers the population of other European nations. For that very reason one has always considered the problem of combating contagious diseases one of international importance.

The sanitariums in which we isolate our tubercular patients in order to accustom them to hygienic living conditions and, as much as possible, to assist in curing them, are either closed or in no position to carry on their activities successfully. They are in need of coal for fuel; above all, they are in need of foodstuffs, without which any cure is out of the question. I am chairman of the directorate of a beautifully located sanitarium for poor tubercular children. For one hundred children we can obtain only twenty-five liters of milk a day, and at times, only sixteen liters. It is quite apparent that with this small quantity a successful struggle against further spread of the malady is impossible.

No less serious than the increase of tuberculosis is that of venereal diseases. Since time immemorial the spread of these diseases has run parallel with events of warfare, both in time and space. The greater the unsanitary conditions which prevail, the greater will also be the danger of resultant

contagion. The shortage of soap and of laundry has given a decided impetus to the spread of venereal diseases. Even children are not spared in this respect. In our hospitals in Düsseldorf, on account of the enormous number of patients, we are unable to admit all children suffering with such diseases who are brought to us. Their names are entered on a waiting list in order to be given consideration when a bed is vacant, with the understanding, however, that they are then still living and the disease may still be cured.

The condition amongst the children in general is perhaps the saddest of all. The mortality of infants is not very great, because artificial nourishment has declined considerably. Since cow's milk is scarcely available and since that which is available is very poor in quality, mothers feed their children more than ever,—at least one beneficial result of this sad age. But the welfare of the sucklings is obtained at the expense of the mothers, who can not nourish themselves sufficiently. That again retroacts quite naturally upon the children, whose power of resistance after the expiration of the first year becomes very small. The mortality among children from two to ten years of age has increased extraordinarily. Their hygienic condition and the condition of their nutrition is lamentable. The English disease, rachitis, has spread to a degree unheard of heretofore. In many families one finds that two, three, even four, children are unable to walk, because children between the ages of three and four years, as a result of this disease, can not get on their feet. Deformity of children as a result of rachitis is increasing.

Such is the hygienic picture which Germany presents to us today, one just as sad as that of the economic life. It offers a gigantic proof of the fact,

well-known to all of us, that economic life and national hygiene stand in intimate and reciprocal relationship.

And what of the future? That is the anxious question which stirs every German physician and friend of the people. A prominent authority on hygiene, Professor von Gruber, in Munich, has recently asserted that ten to fifteen million beings in Germany will have to die off before an improvement of living conditions can set in for those remaining. I can not share this pessimistic point of view. I feel confident that the hatred, which still separates nations today and which stands in the way of the reconstruction

of Europe as well as that of Germany, will vanish before the feeling of solidarity of all mankind. The generous relief work with which America is endeavoring to assist our children confirms me in my belief in the good in humanity at large, without which one could not live. I am further convinced, as a man of science, in the development of which German scholars have played such a large and important rôle, that the whole world is vitally interested in seeing Germany rehabilitated; all the more so since I am firmly convinced that the economic and the hygienic collapse of Germany would be followed by that of the entire old world.